

is made of hardened earth or clay, and the final molt may become mechanically dependent on this factor and impossible without it. In a later stage, when the insects have adapted themselves to a new environment, no cocoon is formed, but pupation takes place as if there were a cocoon surrounding the pupating larva; the larval skin cannot be successfully shed, and the result is a puparium, but the latter, consisting of both larval and pupal skin, is opened after the fashion of a cocoon.

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Psyllidae of the vicinity of Washington, D. C., with description of a New Species of *Aphalara* (Hom.)

By W. L. McATEE, Washington, D. C.

The list of species herein presented comprises the psyllids recorded from the District of Columbia region in the papers cited in the bibliography plus those obtained by the writer and other collectors whose names are mentioned in connection with their captures. The list totals 23 species, and may be compared with those for the vicinity of Ames, Iowa,¹ 15 species, of which 4 were described as new; for New Jersey,² 18 species, of which one is cited merely as n. sp. and 3 are recorded on hypothetical grounds; and for Colorado, 18 species, 14 of them cited under manuscript names.³

Of the 23 species here listed 5 were originally described from material obtained wholly or in part from the vicinity of

¹Mally, C. W. Proc. Iowa Ac. Sci. 1894 (1895), pp. 152-171.

²Smith, J. B. Rep. N. J. State Mus. 1909 (1910) pp. 108-110.

³Gillette, C. P. and Baker, C. F. Bul. 31, Colo. Agr. Exp. Sta., 1895, pp. 113-115.

Washington. For the benefit of those interested in the fauna of Plummers Island, Maryland, it may be said that 10 of the species have been collected on the island and 3 others nearby.

Livia Latreille.

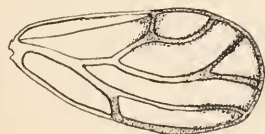
- L. maculipennis** Fitch.—Obtained by sweeping in marshy situations in May and June and by beating pine foliage January to June, also in October. Abundant.
- L. marginata** Patch.—The only specimens seen were collected at Falls Church, Virginia, July 24, by Nathan Banks. These were living in tufts of sedge, the upper leaves of which were entirely etiolated.
- L. vernalis** Fitch.—Swept in marshy places in May and beaten from pine from January to September; has been taken also in October. Abundant.

Aphalara Förster.

- A. calthae** Linnaeus.—A very abundant species; propagates here apparently exclusively upon *Polygonum*, commonly on *P. lapathifolium*. Has been collected on the food plant from June to October and upon pine from January to April.
- A. eas** new species. (Text figs.)

Named in honor of Mr. E. A. Schwarz, who has done much careful study of Psyllidae, and published some excellent papers on the family.

A species of *Aphalara*, recognizable at a glance by its chunky appearance, and broad milky fore wings with some of the veins darkened distally. This species belongs to the section of *Aphalara* that has the clypeus rounded truncate and projecting but little beyond plane of face, and from comparison with descriptions in Crawford's monograph and with specimens in the U. S. National Museum appears to be undescribed.



Aphalara eas n. sp. Upper figure, forewing. Lower figure, male genitalia.

Length of body, 1.74 to 2.31 mm.; of wing, 2.24 to 2.64 mm. Width of head, .60 to .76 mm.; of thorax, .82 to 1 mm.

General color of the body yellowish-green to yellow-brown, with following brown to blackish markings: last 2-3 joints of antenna, underside basal two joints; impressions of vertex and pronotum; a divided semicircular spot on front of praescutum; 4 vittae on scutum, those of inner pair curved and pointed anteriorly; distal ends of tibial and tarsal joints; most of

the thoracic sutures; ventral segments largely; and tips of genitalia.

Fore wings milky hyaline, veins thick; veins near apical margin and especially those bounding marginal cells, dark and bordered by narrow brownish clouds.

Male forceps almost boot-shaped in profile, the "toe" directed posteriorly. Whole genitalia of about the same shape as in *A. picta* Zett.

Type male and *allotype* (in my collection) from Plummers Island, Maryland, May 1, 1914, W. L. McAtee. *Paratypes* include specimens from Plummers Island, April 23, 1916, L. O. Jackson; Maryland near Plummers Island, April 28, 1915; May 9, 1913; May 18, 1913, W. L. McAtee, and Great Falls, Maryland, May 6, H. S. Barber. Five specimens with the last data are in the National Museum Collection.

My specimens were obtained by sweeping low vegetation, the particular food plant unfortunately not being determined.

- A. picta** Zetterstedt.—Specimens labelled Washington, D. C., are dated from May 19 to October 15, and simply Virginia, from May 23 to September 7. Other specimens have been taken at Beltsville, Maryland, June 15, 1913, Mount Vernon, Virginia, June 6, 1915, McAtee; and Dyke, Virginia, May 28, 1915, L. O. Jackson. Specimens in the National Museum collection bearing the cabinet name *A. asteris* Riley belong to this species.
- A. veaziei** Patch.—Abundant; extreme dates of collection May 11 to September 23. A cabinet name *A. solidaginis* Riley indicates a food plant, though probably not the sole one. The species has been beaten from pine in June. In general appearance this species and the last seem almost to grade into each other, but the male genitalia are distinct. The form *A. veaziei metzaria* Crawford apparently has not been taken about Washington, but I have swept it from salt marshes at Wallops Island, Virginia, (May 25, 1913).

Calophya Loew.

- C. flavida** Schwarz.—Originally described from District of Columbia material. Occurs only upon *Rhus glabra* where it has been collected from May 1 to August 4. Usually rather scarce.
- C. nigripennis** Riley.—Abundant on *Rhus copallina*, May 4 to June 29. Mr. E. A. Schwarz says: *"Our eastern species hibernate as full grown larvae or pupae on the stems of their food plants and there is but one generation each year."

* Proc. Ent. Soc. Wash. 6, 1904, p. 240.

Trioza Förster.

- T. aylmeriae** Patch.—Mt. Vernon, Virginia, February 28, L. O. Jackson; and March 21, 1915, McAtee.
- T. diospyri** Ashmead.—Abundant on persimmon (*Diospyros virginiana*); March 26 to August 14.
- T. obtusa** Patch.—Washington, D. C., April 6 and 27, 1885; Maryland, February 22, 1884, A. Koebele; Dead Run, Virginia, in flowers of *Amelanchier*, April 23, 1916, L. O. Jackson. Cabinet name, *T. amelanchieris* Riley.
- T. salicis** Mally.—Common on willow from June to August, though nymphs have been collected as late as October; found on pine foliage from November to April.
- T. tripunctata** Fitch.—Probably the most abundant species of Psyllid in this region. Plants of the genus *Rubus* are said to be the true hosts, but it would seem hardly enough specimens are seen upon *Rubus* (May-July) to account for the great abundance of the species on pine (October-June).

Neotriozaella Crawford.

- N. immaculata** Crawford.—Washington, D. C., October, 1883, E. A. Schwarz; Mt. Rainier, Maryland, November 14, 1915, L. O. Jackson; Eastern Branch, near Bennings, D. C., on *Pinus virginiana*, December 30, 1915, McAtee.

Hemitrioza Crawford.

- H. sonchi** Crawford.—Washington, D. C., June 13, 19, 22, 26; Virginia, October 9, 1881, E. A. Schwarz; Four-mile Run, Virginia, June 29, 1913, A. Wetmore. All of this material except last lot, was used in connection with the original description of the species (and genus).

Pachypsylla Riley.

- P. celtidis-gemma** Riley.—Common on hackberry, May 8 to June 7.
- P. celtidis-mamma** Riley.—Not very common; found on hackberry May 13 to August 15, and on red cedar (*Juniperus virginiana*) and other conifers from October to February. Specimens labelled *P. c.-minuta* seem to be only small individuals of this species.
- P. venusta** Osten Sacken.—Department of Agriculture grounds, Washington, D. C., September, 1892. Miss M. Sullivan. Originally described from Washington, D. C.

Psyllopsis Loew.

- P. fraxinicola** Förster.—Washington, D. C., May 18 to August 10, Hubbard and Schwarz.

Psylla Geoffroy.

- P. annulata** Fitch.—Beltsville, Maryland, May 28, 1916; August 14, 1914, McAtee.

- P. carpinicola* Crawford.—Common on *Carpinus caroliniana*, May 15 to October 11.
- P. cephalica* Crawford.—Washington, D. C., July 1, August 17, E. A. Schwarz.

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Life History and Habits of *Gastroidea caesia* Rog. (Col.)

By MILTON T. GOE, Portland, Oregon.

These beautiful, little, dark-green beetles are to be found in countless numbers in and around Portland, Oregon, from the latter part of March until late in autumn. Plants of the Dock species, *Rumex crispus* and *Rumex obtusifolius*, are their favorite hosts, and on bright, warm days both adult and larva may be found feeding upon the leaves of these plants; but during cold or rainy days they take shelter in the ground near where they are feeding. From my observations, I find of the two *Rumex* species, they prefer *obtusifolius*. The adult beetle and the larva both feed greedily upon the leaves of these plants; the larvae eat the parenchyma off the upper and under surface of the leaves, but are more often found on the under side. The adults are even more devastating than the larvae,